

What is claimed is:

1. A mobile communication system including a radio base station apparatus for determining uplink reception synchronization by using a pilot symbol of DPCCH (Dedicated Physical Control Channel)  
5 from a mobile station, the system comprising:
  - means for re-encoding a TFCI (Transport Format Combination Indicator) value that has been once decoded and comparing the re-encoded TFCI value with a TFCI symbol received from the mobile station; and
- 10 determination means for using the number of TFCI error bits resulting from the comparison to determine uplink reception synchronization.
2. The mobile communication system according to claim 1 further comprising means for computing a characteristic  
15 indicator value from a decoding characteristic resulting from Hadamard transform used in decoding the TFCI value,  
wherein the characteristic indicator value is used to determine uplink reception synchronization.
3. The mobile communication system according to claim 2  
20 further comprising control means for determining whether or not to use a reception SIR (Signal to Interference power Ratio) value computed with the pilot symbol, the number of pilot error bits of the pilot symbol, the number of the TFCI error bits, and the characteristic indicator value for the determination of uplink  
25 reception synchronization, depending on a radio environment.

4. A radio base station apparatus for determining uplink reception synchronization by using a pilot symbol of DPCCH (Dedicated Physical Control Channel) from a mobile station, the apparatus comprising:

5 means for re-encoding a TFCI (Transport Format Combination Indicator) value that has been once decoded and comparing the re-encoded TFCI value with a TFCI symbol received from the mobile station; and

10 determination means for using the number of TFCI error bits resulting from the comparison to determine uplink reception synchronization.

5. The radio base station apparatus according to claim 4 further comprising means for computing a characteristic indicator value from a decoding characteristic resulting from Hadamard transform 15 used in decoding the TFCI value,

wherein the characteristic indicator value is used to determine uplink reception synchronization.

6. The radio base station apparatus according to claim 5 further comprising control means for determining whether or not to use 20 a reception SIR (Signal to Interference power Ratio) value computed with the pilot symbol, the number of pilot error bits of the pilot symbol, the number of the TFCI error bits, and the characteristic indicator value for the determination of uplink reception synchronization, depending on a radio environment.

7. A method for determining uplink reception synchronization in a mobile communication system including a radio base station apparatus for determining uplink reception synchronization by using a pilot symbol of DPCCH (Dedicated Physical Control Channel) 5 from a mobile station, the method comprising the steps, in the radio base station apparatus, of:

re-encoding a TFCI (Transport Format Combination Indicator) value that has been once decoded and comparing the re-encoded TFCI value with a TFCI symbol received from the mobile station; 10 and

using the number of TFCI error bits resulting from the comparison to determine uplink reception synchronization.

8. The method for determining uplink reception synchronization according to claim 7, further comprising the step of computing 15 a characteristic indicator value from a decoding characteristic resulting from Hadamard transform used in decoding the TFCI value, wherein the characteristic indicator value is used to determine uplink reception synchronization.

9. The method for determining uplink reception synchronization 20 according to claim 8, further comprising the step of determining whether or not to use a reception SIR (Signal to Interference power Ratio) value computed with the pilot symbol, the number of pilot error bits of the pilot symbol, the number of the TFCI error bits, and the characteristic indicator value for the 25 determination of uplink reception synchronization, depending on a radio environment.